II.   AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A method for delivering of a plurality of RDMA messages, the
method comprising the steps of:

placing each out-of-order RDMA message to a reassembly buffer, wherein each in-order
RDMA message bypasses the reassembly buffer and is sent to an internal data buffer for direct
placement to a destination buffer;

storing information regarding each out-of-order RDMA message on a per TCP hole basis,
wherein a TCP hole is a vacancy created in a TCP stream as a result of an out-of-order TCP
segment, wherein the information stored for RDMA Read messages includes at least a number of
pending RDMA Read Request messages waiting for a doorbell ring in a connection context on a
per TCP hole basis or a number of completed RDMA Read Response messages on a per TCP
hole basis; and

delivering the plurality of RDMA messages in-order, such that the out-of-order RDMA
messages are reassembled in-order in the reassembly buffer, wherein, for RDMA Send type
messages, the delivering includes, for each RDMA Send message of a TCP hold, placing a
completion queue element (CQE), the CQE including RDMA Send message specific
information, in a work queue element (WQE) associated with the respective RDMA Send
message and keeping a number of RDMA Send messages in a connection context on a per TCP
hole basis.

2.   (Previously presented) The method of claim 1, wherein, for an RDMA Read Request
message, the storing step includes:

ringing the doorbell of a network interface controller (NIC) that each of the number of pending RDMA read response messages have been posted to a respective work queue element (WQE) of a read queue upon closing of a respective TCP hole.

3.   (Original) The method of claim 2, further comprising the step of processing each WQE.

4.   (Cancelled).

5.   (Currently amended) The method of claim [[4]] 1, further comprising the step of placing a completion queue element (CQE) to a completion queue (CQ) upon closing of the TCP hole.

6.   (Currently amended) The method of claim [[4]] 1, wherein a number of CQEs is equal to a number of RDMA Send messages of the TCP hole.

7.   (Currently amended) The method of claim [[4]] 1, wherein RDMA Send message specific information is retrieved from a respective WQE upon a Poll-for-Completion request by an RDMA verb interface.

8.   (Previously presented) The method of claim 1, wherein, for RDMA Read Response type messages, the method further comprises the step of:
        reporting completion of RDMA Read work requests upon closing of the TCP hole.

9.   (Currently Amended) A system for delivering of a plurality of RDMA messages, the
system comprising:

a processor; and

a memory, further comprising:

means a system for placing each out-of-order RDMA message to a reassembly
buffer, wherein each in-order RDMA message bypasses the reassembly buffer and is sent
to an internal data buffer for direct placement to a destination buffer;

means a system for storing information regarding each out-of-order RDMA
message on a per TCP hole basis, wherein a TCP hole is a vacancy created in a TCP
stream as a result of an out-of-order TCP segment, wherein the information stored for
RDMA Read messages includes at least a number of pending RDMA Read Request
messages waiting for a doorbell ring in a connection context on a per TCP hole basis or a
number of completed RDMA Read Response messages on a per TCP hole basis; and

means a system for delivering the plurality of RDMA messages in-order, such
that the out-of-order RDMA messages are reassembled in-order in the reassembly buffer,
wherein, for RDMA Send type messages, the delivering includes, for each RDMA Send
message of a TCP hold, placing a completion queue element (CQE), the CQE including
RDMA Send message specific information, in a work queue element (WQE) associated
with the respective RDMA Send message and keeping a number of RDMA Send
messages in a connection context on a per TCP hole basis.

10. (Currently Amended) The system of claim 9, wherein, for an RDMA Read message, the storing means includes:

~~means~~ a system for ringing the doorbell of the delivery means that each of the number of pending RDMA Read Response messages have been posted to a respective work queue element (WQE) of a read queue upon closing of a respective TCP hole.

11. (Cancelled).

12. (Currently amended) The system of claim [[11]] 9, further comprising means for placing a completion queue element (CQE) to a completion queue (CQ) upon closing of the TCP hole.

13. (Currently Amended) The system of claim [[11]] 9, wherein a number of CQEs is equal to a number of RDMA Send messages of the TCP hole.

14. (Currently Amended) The system of claim [[11]] 9, wherein the RDMA Send message specific information is retrieved from a respective WQE upon a Poll-for-Completion request by an RDMA verb interface.

15. (Currently Amended) The system of claim 9, further comprising:

~~means~~ a system for reporting completion of RDMA Read work requests upon closing of the TCP hole.

16.   (Currently Amended) A computer program product comprising a tangible computer useable storage medium having computer readable program code embodied therein for delivering of a plurality of RDMA messages, the program product comprising:

program code configured to place each out-of-order RDMA message to a reassembly buffer, wherein each in-order RDMA message bypasses the reassembly buffer and is sent to an internal data buffer for direct placement to a destination buffer;

program code configured to store information regarding each out-of-order RDMA message on a per TCP hole basis, wherein a TCP hole is a vacancy created in a TCP stream as a result of an out-of-order TCP segment, wherein the information stored for RDMA Read messages includes at least a number of pending RDMA Read Request messages waiting for a doorbell ring in a connection context on a per TCP hole basis or a number of completed RDMA Read Response messages on a per TCP hole basis; and

program code configured to deliver the plurality of RDMA messages in-order, such that the out-of-order RDMA messages are reassembled in-order in the reassembly buffer, wherein, for RDMA Send type messages, the delivering includes, for each RDMA Send message of a TCP hold, placing a completion queue element (CQE), the CQE including RDMA Send message specific information, in a work queue element (WQE) associated with the respective RDMA Send message and keeping a number of RDMA Send messages in a connection context on a per TCP hole basis.

17.   (Previously presented) The program product of claim 16, wherein, for an RDMA Read message, the storing program code includes:

        program code configured to ring the doorbell of a network interface controller (NIC) that each of the number of pending RDMA Read Response messages have been posted to a respective work queue element (WQE) of a read queue upon closing of a respective TCP hole.

18.   (Cancelled).

19.   (Currently amended) The program product of claim [[18]] 16, further comprising program code configured to place a completion queue element (CQE) to a completion queue (CQ) upon closing of the TCP hole.

20.   (Currently Amended) The program product of claim [[18]] 16, wherein a number of CQEs is equal to a number of RDMA Send messages of the TCP hole.

21.   (Currently Amended) The program product of claim [[18]] 16, wherein the RDMA Send message specific information is retrieved from a respective WQE upon a Poll-for-Completion request by an RDMA verb interface.

22.   (Previously presented) The program product of claim 16, further comprising:

        program code configured to report completion of RDMA Read work requests upon closing of the TCP hole.